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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,060	11/09/2000	Toshiyuki Kondo	360842007000	9641

25227 7590 12/02/2002

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EXAMINER
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SIMONE, CATHERINE A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 12/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,060

Applicant(s)

KONDO ET AL.

Examiner

Catherine Simone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/17/2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-39 is/are pending in the application.
- 4a) Of the above claim(s) 30-32 and 34-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-29 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "the connection region" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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4. **Claims 1, 2, 4, 6-15, 19, 22-26 and 33** rejected under 35 U.S.C. 102(e) as being anticipated by Ohnishi et al. (5,979,684).

Ohnishi et al. discloses a sandwich structure where a pair of sheets (Fig. 12, #100a and #100b) comprising fibre reinforced plastic (see col. 11, lines 35-40) is arranged with a gap between them and a rib structure (Fig. 12, #102) which is integrally molded by a resin transfer molding process to the pair of sheets is interposed, wherein the fibre reinforced plastic includes a reinforcing fibre that is selected from the group consisting of a carbon fibre, a glass fibre and carbon fibre hybrid, and combinations thereof (see col. 9, lines 56-58). Regarding **claims 2 and 4**, note the pair of sheets have a thickness of from 2-10 mm and the rib has a thickness of from 1-3 mm (see col. 11, lines 18-20). Regarding **claim 6**, note the fibre reinforced plastic is carbon fibre reinforced plastic (see col. 12, lines 30-33). Regarding **claim 7**, note the fibre reinforced plastic is a hybrid fibre reinforced plastic of carbon fibre and glass fibre (see col. 9, lines 56-58). Regarding **claim 8**, the reinforcing fibre is a woven material (see col. 7, lines 26-30). Regarding **claim 10**, note the gap (Fig. 5, #35) provides a uniform spacing along the lengthwise directions of the sheets. Regarding **claim 11**, note the gap (Fig. 4, #32) provides a spacing that varies along the lengthwise direction of the sheets. Regarding **claim 12**, note there is arranged, in the gap, a filler (Fig. 12, #101; also see col. 6, lines 6-16) having a specific gravity lower than the specific gravity of the pair of sheets. Regarding **claim 13**, note at least one of the sheets has a jagged form in which there are alternately arranged peaks and troughs (Fig. 20, #131). Regarding **claim 14**, note a rigid frame structure (Fig. 3, #26) is arranged in the gap. Regarding **claim 15**, note a connecting member (see col. 12, lines 30-37) for connecting to another member is fitted to an outer face of at least one of the sheets. Regarding **claim 19**, note a cross-sectional shape is flat

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sheet shaped (Fig. 6). Regarding **claim 22**, note a plurality of the fibre reinforced plastic roofing materials are connected together in a widthwise direction (Fig. 7). Regarding **claim 23**, note a gap (Fig. 7, #52) is formed between adjacent fibre reinforced plastic roofing materials in the widthwise direction (Fig. 7). Regarding **claim 25**, note at least one of the sheets comprises a matrix resin comprising phenolic resin (see col. 7, lines 47-50). Regarding **claim 26**, note a fire-resistant material provided at least on one face of the fibre reinforced plastic roofing material (see col. 7, lines 50-59).

The recitation “a fibre reinforced plastic roofing material” has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Regarding **claim 1**, process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. Further, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicant to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F.2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974). This burden is NOT discharged solely because the product was derived from a process not known to the prior art. *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974).

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Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 946, 966 (Fed. Cir. 1985) and MPEP §2113. In this case, the limitation “which is integrally molded by a resin transfer molding process to the pair of sheets is interposed” in claim 1 is a method of production and therefore does not determine the patentability of the product itself.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi et al. (5,979,684).

Ohnishi et al. discloses a sandwich structure where a pair of sheets (Fig. 12, #100a and #100b) comprising fibre reinforced plastic (see col. 11, lines 35-40) is arranged with a gap between them and a rib structure (Fig. 12, #102) which is integrally molded by a resin transfer molding process to the pair of sheets is interposed, wherein the fibre reinforced plastic includes a reinforcing fibre that is selected from the group consisting of a carbon fibre, a glass fibre and carbon fibre hybrid, and combinations thereof (see col. 9, lines 56-58). However, Ohnishi et al. fails to disclose a multiaxial woven material having a fibre direction at an angle of  $45 \pm 10^\circ$  to the lengthwise direction of the rib structure. However, Ohnishi et al. teaches a unidirectional woven

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material in a direction of  $0^{\circ} \pm 5^{\circ}$  in the longitudinal direction (see col. 10, lines 62-65). Therefore, the fibre direction would be readily determined through routine experimentation by one having ordinary skill in the art depending on the desired end results.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the woven material in Ohnishi et al. having a fibre direction at an angle of  $45^{\circ} \pm 10^{\circ}$  to the lengthwise direction of the rib structure, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art absence of showing unexpected results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

7. **Claims 16-18, 20, 21 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi et al. (5,979,684).

Ohnishi et al. discloses the claimed invention except for the specific overall thickness ratio, specific weight, specific density, specific flexural rigidity, specific length and specific width of the sandwich structure as set forth in claims 16-18, 20 and 21. However, Ohnishi et al. teaches thickness (see col. 11, lines 17-20), flexural rigidity (see col. 8, lines 1-4), length and width (see col. 8, lines 18-21) of the sandwich structure. Thus, one of ordinary skill in the art would have recognized that the overall thickness ratio, weight, density, flexural rigidity, length and width of the claimed sandwich structure would be readily determined through routine experimentation depending on the desired end results.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the specific overall thickness ratio, specific weight, specific density, specific flexural rigidity, specific length and specific width for the

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sandwich structure in Ohnishi et al., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art absence of showing unexpected results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

8. **Claims 27 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi et al. (5,979,684).

Ohnishi et al. discloses the claimed invention except for the fire-resistant material being either rock wool or phenolic foam. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the fire-resistant material in Ohnishi et al. as being either rock wool or phenolic foam, since it had been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and it would be entirely obvious absence of showing unexpected results. *In re Leshin*, 125 USPQ 416.

#### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-29 and 33 have been considered but are moot in view of the new grounds of rejection.

#### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (703) 605-4297. The examiner can normally be reached on 9:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (703) 308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.




Catherine Simone  
Examiner  
Art Unit 1772

November 26, 2002



HAROLD PYON  
SUPERVISORY PATENT EXAMINER 11/26/02



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